

## **ABSTRACT**

An automated image processing technique is disclosed that evaluates pixels of a phase-difference image to determine those pixels corresponding to inflowing phase data and background phase data. Phase-difference images are generated from a first acquisition and a second acquisition. Non-zero spatially varying background phase from the phase-difference images that are due to eddy currents induced by flow encoding gradients used to generate the phase-difference images is determined. This non-zero spatially varying background phase is removed from the phase-difference images to determine phase associated with flowing spins and phase associated with stationary spins.